DOCUMENT RESUME

ED 302 599 UD 026 438

AUTHOR Wojtkiewicz, Roger A.
TITLE Household Composition Change and Economic Welfare Inequality: 1960 to 1980. CDE Working Paper 88-18.
INSTITUTION Wisconsin Univ., Madison. Center for Demography and Ecology.
PUB DATE Apr 88
NOTE 42p.; Paper presented at the Annual Meeting of the Population Association of America (New Orleans, LA, April 21-23, 1988).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Birth Rate; Black Family; *Blacks; Census Figures; Demography; Economically Disadvantaged; Economic Status; *Family (Sociological Unit); *Family Income; Family Size; Fatherless Family; Females; Males; One Parent Family; Poverty; *Racial Differences; *Sex Differences; *Whites
IDENTIFIERS *Feminization of Poverty

ABSTRACT

This paper considers the following dimensions of the change in household composition of the United States population between 1960 and 1980: (1) a decrease in the number of households headed by a couple; and (2) a decrease in the number of children per household. Examination of census figures from 1960, 1970, and 1980 reveals that blacks and whites both experienced these shifts, as did both males and females. The shifts were larger for blacks than for whites. The number of female-headed black households increased, and this acted to increase racial economic inequality. However, the decrease in the number of children per household acted to decrease racial inequality. As a result, the level of racial economic inequality remained constant. Economic welfare inequality increased between black males and females, but not between white males and females. The primary cause of sexual economic inequality, particularly for blacks and whites aged 20 to 39, was the increase of households headed by a single person. Inequality between black and white females were due to both composition changes. Because of the shift to female-headed households, black children became worse off than white children, females aged 20 to 39 became worse off than similar males, and black women became worse off than white women. Blacks would have become much worse off than whites if it were not for the decrease in the birth rate. Data are presented on 12 tables. A brief list of references is included. (BJV)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

10-27-88

ED302599

Center For Demography And Ecology
University of Wisconsin-Madison

HOUSEHOLD COMPOSITION CHANGE AND ECONOMIC WELFARE INEQUALITY: 1960 TO 1980

Roger A. Wojtkiewicz

CDE Working Paper 88-18

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Roger Wojtkiewicz
LSU
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

UD026438

BEST COPY AVAILABLE

HOUSEHOLD COMPOSITION CHANGE AND ECONOMIC WELFARE INEQUALITY: 1960 TO 1980

Roger A. Wojtkiewicz

Center for Demography and Ecology
4412 Social Science Building
1180 Observatory Drive
University of Wisconsin
Madison, WI 53706

Paper presented at session on "Trends in the Status of Black Americans" at the 1988 Meetings of the Population Association of America. This analysis was supported by Population Research Grants (HD05876 and H07014) from the Center for Population Research of the National Institute of Child Health and Human Development to the Center for Demography and Ecology.

HOUSEHOLD COMPOSITION CHANGE AND ECONOMIC WELFARE INEQUALITY: 1960 TO 1980

INTRODUCTION

This research uses household composition change as an intermediate variable to investigate the social structural implications of demographic trends during the 1960's and 1970's. In particular, this research examines the relationship between household composition change and change in economic welfare inequality by race and sex from 1960 to 1980.

BROADER SOCIAL CHANGES	--->	DEMOGRAPHIC TRENDS	--->	HOUSEHOLD COMPOSITION CHANGE	--->	ECONOMIC WELFARE INEQUALITY

The relationship between household composition change and economic welfare inequality occurs in the context of demographic trends in regard to marriage and fertility. Marriage trends include increased divorce, later age at marriage, and less remarriage. Fertility trends include a return to below replacement level fertility and an increase in the proportion of births to unmarried women (Cherlin, 1981; Farley, 1984; Sweet, 1984). The latter trend has occurred as a result of an increase in the exposure of women to non-marital fertility due to decrease in marriage in conjunction with marital fertility declines which have overshadowed nonmarital fertility declines.

Marriage and fertility trends have direct implications for the composition of households in which people live. Later age at marriage and more divorce means that more adults live in male- or female-headed households as opposed to households headed by a couple. More

divorce and the increased prevalence of nonmarital fertility means that more children live in female-headed households and for substantial periods of time (Bumpass, 1984). Decrease in fertility means that there are more households with no children present and that the number of children is less in households in which children are present.

There are alternative explanations for the demographic trends. These explanations involve broader social changes such as change in the social roles of women especially manifested by the increase in female labor force participation, the rise of individualism, decrease in the relative income of cohorts, increased labor market supply problems due to large cohort sizes, and increased labor demand shortages especially for black males (Aries, 1980; Easterlin, 1980; Cherlin, 1981; Farley, 1984; Espenshade, 1985; Garfinkel and McLanahan, 1986). While there is debate over the most appropriate explanation, it is clear that broader social changes occurred leading to demographic trends which resulted in change in the composition of households in which people live.

Household composition is of sociological interest because of its implications for economic welfare. There are a number of ways that researchers have looked at the impact of household composition on welfare. One approach is to consider the effect of living in a female-headed household on early life course transitions which have major implications for status attainment (Hogan and Kitagawa, 1985; McLanahan, 1985. Michael and Tuma, 1985; McLanahan, 1988).

While the life course research from a social demographic perspective has made important contributions to knowledge, this research has limitations in terms of the type of questions which can be addressed. Life course research uses panel data which covers whole populations

or selected subgroups for limited periods of time. Research questions which deal with social change over time periods of 20, 30, or more years cannot be addressed with panel data.

A second approach to considering the impact of household composition on welfare is to consider change in population structure over time using cross-sectional data. Bianchi (1980), Bianchi (1981), and Farley (1984) have considered the impact of household composition change on the economic welfare of blacks and whites using cross-sectional data. In the most recent contribution to this line of research, Farley (1984) decomposed change in mean per capita household income between 1960 and 1970 and between 1970 and 1980 into parts due to change in household composition and change in income. Household composition change had two dimensions. One was family type change which involved the shift of the population into female-headed households. The shift into female-headed households was expected to have a negative impact on mean per capita household income because female-headed households have lower mean family incomes than households which include a couple. The second dimension was family size change which involved decreases in family size. Smaller family sizes mean less people to support at any level of household income and thus higher levels of economic welfare.

Family type change made a notable negative contribution to total change in both periods for blacks but did not make a notable contribution for whites in either period. For both blacks and whites, family size change made a notable positive contribution during the 1970 to 1980 period but did not make a notable contribution for either group during the 1960 to 1970 period.

Farley (1984) showed that household composition changes made notable contributions to

change in mean per capita household income for both blacks and whites but the research did not address the question of whether or not household composition change resulted in change in economic welfare inequality between blacks and whites. The key problem addressed in this paper is the impact of household composition change on inequality by race as well as by sex.

RESEARCH QUESTIONS

This research addresses two key questions. First, has household composition change resulted in change in inequality between blacks and whites? Among both blacks and whites, the proportion living in female-headed households has increased. These households have lower levels of economic welfare than households which include a couple because of the lesser earning power of a lone female compared to a couple. In addition, the number of children in the households of both blacks and whites has decreased which should act to lower the amount of dependency in households.

As will be shown below, blacks had larger shifts into female-headed households than whites and larger decreases in the number of children present in households. Differences in the impacts of these two household composition changes should have changed inequality between blacks and whites. Given that blacks had lower levels of economic welfare than whites to begin with, the larger shift for blacks into female-headed households should have increased inequality while the larger shift for blacks into households with fewer children should have decreased inequality.

Second, has household composition change resulted in change in economic welfare inequality

between males and females? While both males and females have shifted out of households headed by couples, adult males have shifted into male-headed households while adult females have shifted into female-headed households. Female-headed households have lower levels of economic welfare because of earnings differentials between males and females and because unmarried, female parents work fewer hours because of childcare demands. Thus, differences in the nature of the shift out of couple households should act to increase inequality in economic welfare between males and females.

The shift into households with fewer children present should have been larger for males than females because of sex-related differences in the impact of divorce and non-marital fertility. Unmarried females have a greater chance of living with own children than unmarried males because children of divorce usually live with their mother and children born outside of marriage almost always live with their mother rather than father. These differences in the shift into households with fewer children should have increased economic welfare inequality between males and females. Thus, while the two household composition changes considered in this research are expected to have counteracting impacts on inequality between blacks and whites, the two changes are both expected to increase inequality between males and females.

DATA AND VARIABLES

The data are 1/1,000 samples from the 1960, 1970, and 1980 U.S. Census Public Use Samples. The number of cases is 165,788 in 1960, 183,725 in 1970, and 197,605 in 1980. The sample is limited to blacks and whites. The sample was restricted to those living in households and either related to the household head or a cohabitator. Thus, persons

unrelated to the head and institutionalized persons were excluded.

For each person in the sample, two household composition variables were constructed to capture characteristics of the person's household. The headship type variable captures differences in household incomes due to sex differences in earnings as well as differences in the number of earners in the household. This variable has the following three categories: household headed by a married or cohabitating couple, household headed by a female without a partner, and household headed by a male without a partner. An effort was made to identify cohabitators and those identified were coded as living in a couple household. The second household composition variable is the number of children present in the household and has the following categories: zero children, one child, two children, three children, and four or more children. The variable captures differences in the amount of dependency in the household.

Per capita household income is used to measure of the level of economic welfare in a person's household. The measure is calculated by dividing total household income by the number of persons in the household. 1960 and 1970 dollars were inflated to 1980 dollars using the Consumer Price Index.

ANALYSIS APPROACH

There are two parts to the data analysis in this paper. In the first part, change in the distribution of persons by headship type and by number of children present in households is considered. These changes are first considered for blacks and whites separately, then for males and females within race groups, and then finally for age groups within race/sex

groups. Attention is focused on the nature and magnitudes of the household composition changes.

In the second part of the data analysis, linear decomposition techniques are used to consider the impact of household composition change on mean per capita household income within groups and then to consider the impact of household composition change on inequality in mean per capita household income between groups. As in the first part of the data analysis, an elaboration approach is used in which race groups, then race/sex groups, and then finally race/sex/age groups are considered.

HOUSEHOLD COMPOSITION CHANGE

Headship Type

Table 1 shows that for both whites and blacks, the percentage living in households headed by a couple decreased between 1960 and 1980 while the percentage living in male- and female-headed households increased. The percentage of blacks living in female-headed households increased dramatically from 22% in 1960 to 36% in 1980. The increase for whites was not large as that for blacks. Both increases were due to increased divorce and later age at marriage.

Table 2 shows headship type distributions by race and sex. Males and females differ in the alternative to living in a couple household. Males live in both male- and female-headed households as an alternative while females live only in female-headed households. This difference is due to the fact that both male and female children live in female-headed households. At adult ages, the alternative to couple households is largely sex-specific, male-

headed for males and female-headed for females.

Among both blacks and whites, there was a decrease in the percentage living in households headed by a couple with a larger decrease for blacks than whites. For black and white males, there were increases in the percentage living in both male- and female-headed households. For black and white females, there was an increase in the percentage living in female-headed households. The change for black females is particularly striking with the percentage living in female-headed households increasing from 28% in 1960 to 46% in 1980.

Table 3 shows headship type distributions in 1960, 1970, and 1980 by race, sex, and age group. Focusing first on the 0-19 age group, the proportion of white children living in female-headed households increased from about 6% in 1960 to 11% in 1980, while the percentage of black children living in female-headed households increased from about 22% to 41%. The impact of increased divorce and relatively more nonmarital fertility had a larger impact on black children than white.

For white adults in the 20-39 age group, the percentage of males in male-headed households increased from 6% in 1960 to 16% in 1980 while the percentage of females in female-headed households increased from 9% to 18%. Blacks in the 20-39 age group also experienced decreases in the percentage in households headed by a couple but the decreases were larger than those for whites. Another difference is that the percentage of black males living in both male- and female-headed households increased. Some unmarried black males in this age group live with their mother as an alternative to living alone. The percentage of black males in female-headed households increased from 11% in 1960 to 14% in 1980 while the percentage in male-headed households increased from 9% to 20%. There was a large increase

in the percentage of black females in female-headed households from 27% in 1960 to 45% in 1980.

For both blacks and whites in the 40-59 age group, the percentage in households headed by a couple decreased between 1960 and 1980. For both blacks and whites, the decrease for males was countered by an increase in the percentage in male-headed households while the decrease for females was countered by an increase in the percentage in female-headed households. The decreases in the percentage in couple households were larger for blacks than for whites in this age group as in the other age groups. The decrease in the percentage in couple households was larger for black females than for black males while there was no sex difference for whites.

In the 60– age group, the percentage of white males in couple households increased slightly between 1960 and 1980. The percentage of white females, black males, and black females in couple households decreased over the period reflecting increased propensities to live alone.

Number of Children

Table 4 shows that both blacks and whites shifted into households with fewer children present between 1960 and 1980. [1] The percentage of whites in households with three or more children present decreased from 32% in 1960 to 17% in 1980 while the percentage for blacks decreased from 52% to 32%. On the other end of the distribution, the proportion of whites in households with zero children present increased from 30% in 1960 to 42% in

[1] While the decomposition analysis used five number of children categories, the three children and four or more children categories were combined in Tables 4, ,5 and 6 to ease the discussion of results.

1980 while the percentage for blacks increased from 22% to 27%. Both blacks and whites experienced decreases in the number of children present in households but the nature of the decrease was different for the two groups because blacks started at a higher level than whites.

Table 5 shows the number of children distributions broken down by race and sex. For both males and females within each racial group, the percentage in households with three or more children present decreased while the percentage in households with zero children present increased. The size of the changes were similar for males and females within each racial group.

A breakdown of the number of children distribution by age group within race/sex group is shown in Table 6. There are not large differences by sex within race among children and adolescents. However, there are differences between racial groups. In the 0-19 age group, the percentage of white females living in households with three or more children present decreased from 53% in 1960 to 35% in 1980 while the percentage for black females decreased from 75% to 53%. There were similar differences between white males and black males.

Among both blacks and whites in the 20-29 age group, there are sex differences in the distribution by number of children present in the household. The sex differences are due in part to differences in the age pattern of parenting in which males are parents at older ages than females. The sex differences are also due to the fact that unmarried mothers have their own children living with them in most cases while unmarried fathers do not. However, both males and females in the two racial groups experienced shifts into households with fewer children present over the period.

The percentage of white males in the 20-39 age group living in households with three or more children present decreased from 28% in 1960 to 12% in 1980 while the percentage for white females decreased from 33% to 16%. The percentage of black males in the 30-39 age group living in households with three or more children present decreased from 40% in 1960 to 20% in 1980 while the percentage for black females decreased from 46% to 29%.

On the other end of the distribution, the percentage of white males in the 20-39 age group living in households with zero children present increased from 26% in 1960 to 44% in 1980 while the percentage for white females increased from 19% to 34%. The percentage of black males living in households with zero children present increased from 27% in 1960 to 38% in 1980 while the percentage for black females increased slightly from 20% to 22%. While all four race/sex groups participated in the shift to smaller number of children households, black females did not participate in the shift to not living with children.

In the 40-59 age group, each of the four race/sex groups experienced decreases in the percentage living in households with three or more children present. While white males and females experienced an increase in the percentage living in households with no children present, this percentage did not change very much for black males and females. In fact, the percentage for black females actually decreased over the period. Thus, while both groups participated in the shift out of households with larger numbers of children, blacks in this age group did not participate in the shift into households with no children present.

In the 60+ age group, the percentage in households with zero children present increased for each of the four race/sex groups. This change is due to a greater propensity for older persons to live alone and to not live with their adult children and grandchildren. When older, white

adults live in households where children are present, they rarely live in households with three or more children present. On the other hand, 13% of black males and 11% of black females in 1960 lived in households with three or more children present. However, these percentages decreased so that by 1980, 5% of black males and 4% of black females in this age group lived in households with three or more children present.

ANALYSIS METHOD

The first step in the analysis of the impact of household composition change on inequality in mean per capita household income was to decompose change over time in mean per capita household income within population groups into three components: one part due to composition change, one part due to change in rates, and one part due to interaction between change in composition and change in rates. The population groups in the analysis were either race, race/sex, or race/sex/age groups. Composition change refers to change over time in the distribution of the group across headship type and number of children categories. Change in rates refers to change in the mean per capita household income within headship type and number of children categories.

The composition component is that part of total change which would have occurred if only composition had changed and rates had remained constant. The rates component is that part of total change which would have occurred if only rates had changed and composition had remained constant. The interaction component is that part of total change which occurred because composition and rates changed at the same time.

The composition component was in turn divided into three subcomponents. One subcom-

ponent was that part of total composition change due to change in the marginal distribution of the group across headship type categories. A second subcomponent was that part of total composition change due to change in the marginal distribution of the group across number of children categories. The third subcomponent was that part of total composition change due to change in headship type/number of children composition interaction. Thus, there were two types of interaction in this decomposition.

Specifically, there were three steps in the decomposition analysis. First, for each year and within each particular group, mean per capita household income for subgroups was regressed on dummy variables for headship type and number of children and on dummy variables representing interactions between the two types of household composition variables. Since the units of analysis were headship type/number of children subgroups, these regression models were saturated and fit the data exactly. Second, mean log per capita household income for the group was expressed as a linear combination of the regression coefficients weighted by the appropriate subgroup proportions. Third, change in mean log per capita household income between 1960 and 1970 and between 1970 and 1980 for the group was decomposed using standard linear decomposition techniques (Kitagawa, 1955) into parts due to change in household composition, change in income, and composition/income interaction. The household composition component was broken down further into three parts: headship type composition, number of children composition, and composition interaction.

The results from the decompositions were used to create two measures. One measure is the income change ratio which measures the impact of composition change on mean per capita household income for a group. The second measure is the inequality change ratio which

measures the impact of composition change on inequality in mean per capita household income between two groups.

$$\text{INCOME CHANGE RATIO} = \frac{\text{EARLIER YEAR MEAN + COMPOSITION COMPONENT}}{\text{EARLIER YEAR MEAN}}$$

$$\text{INEQUALITY CHANGE RATIO} = \frac{\text{INCOME CHANGE RATIO FOR GROUP A}}{\text{INCOME CHANGE RATIO FOR GROUP B}}$$

The first ratio indicates how much change there would have been in mean per capita household income for a group if there had only been a particular composition change and there had been no change in rates or in other composition components. An income change ratio greater than one means the composition change acted to increase mean per capita household income, a ratio less than one means that the composition change acted to decrease mean per capita household income, and a ratio of one means no change.

The second ratio indicates the extent to which a particular composition change had a differential impact on the mean per capita income for one group as compared to another. Assuming that group A had a larger mean per capita household income than group B to start, an income change ratio greater than one means that the composition change acted to increase inequality between the two groups, a ratio less than one means the composition change acted to decrease inequality between the two groups, and a ratio of one means no change.

CHANGE IN ECONOMIC WELFARE INEQUALITY

Has household composition change contributed to change in economic welfare inequality? The analysis in this section of the paper addresses this question. Table 7 shows income change ratios for whites and blacks for 1960 to 1970 change. These ratios show the degree to which a particular part of household composition change has contributed to change in mean per capita household income for the group of interest. A ratio of 1.030 indicates that household composition change led to a 3% increase in mean per capita household income while a ratio of .970 indicates that household composition change led to a 3% decrease in mean per capita household income. In this paper, income change ratios of .970 or less and 1.030 and higher are highlighted. A change of 3% in either direction is considered large enough to warrant attention and will be considered a "notable" change.

For whites, neither headship type change or number of children change made a notable impact on mean per capita household income during the 1960 to 1970 period. The small composition changes which did occur counteracted each other so that the impact of total composition change was nearly zero. Blacks also had counteracting composition changes during the 1960 to 1970 period. As a result, the income change ratio for the impact of total compositional change was 1.015 which indicates only a small change in mean per capita household income due to total composition change. However, headship type change and number of children change had larger impacts on mean per capita household income for blacks than for whites as the income change ratios indicate.

The inequality change ratio for white/black inequality measures this difference in income change ratios precisely. An inequality change ratio of 1.030 indicates that white/black

inequality increased by 3% as a result of a particular composition change while an inequality change ratio of .970 indicates that white/black inequality decreased by 3% as a result of a particular composition change. Again, a 3% change in either direction is considered large enough to warrant attention.

Headship type change produced a small increase in white/black inequality in the 1960 to 1970 period due to the larger shift into female-headed households for blacks than whites. On the other hand, the larger shift into households with fewer children for blacks than whites resulted in a small decrease in inequality between blacks and whites. The inequality change ratio of 1.000 for the impact of total composition change on inequality in the 1960 to 1970 period indicates that total composition change had no notable impact on inequality. The two composition changes counteracted each other.

The ratios for 1970 to 1980 change are shown in Table 8. For whites, headship type change did not have a notable impact on mean per capita household income while number of children change had a notably large positive impact. As a result of the influence of number of children change, total composition change had a notably large impact on mean per capita household income. Number of children change also had a notably large positive impact on mean per capita household income for blacks. Unlike the situation for whites, headship type change had a notably large negative impact on mean per capita household income for blacks. Still, number of children change overwhelmed the headship type change so that total composition change acted to increase mean per capita household income for blacks. [2]

Since headship type change had a larger impact on mean per capita household income for

[2]The results from the income change ratios in Tables 7 and 8 support the findings of Farley (1984).

blacks than for whites, headship type change acted to increase inequality between blacks and whites in the 1970 to 1980 period as measured by the 1.032 inequality change ratio. At the same time, number of children change also had a larger impact on mean per capita household income for blacks than whites. The two composition changes worked in opposite directions so that the impact of total composition change on white/black inequality in mean per capita household income was nearly zero.

In the 1960 to 1970 period, total composition change did not act to increase inequality between blacks and whites since neither headship type change nor number of children change had much impact on inequality. In the 1970 to 1980 period, total composition change again did not act to increase inequality but only because headship type change and number of children change counteracted each other. Compositional change had more impact in the 1970 to 1980 period than in the 1960 to 1970 period.

In the next section of the analysis, change in inequality in mean per capita household income by sex is considered. An elaboration approach is used to consider sex differences within race. Race differences within sex are also considered.

Table 9 shows the income change ratios for the 1960 to 1970 period for white males, white females, black males, and black females and the inequality change ratios for the white male versus white female, black male versus black female, white male versus black male, and white female versus black female contrasts. First, looking at the income change ratios, the only ones which indicate a change larger than 3% are number of children change for black males and headship type change for black females. None of the composition components had a 3% or larger impact on mean per capita household income for either white males or white

females. As a result, total composition change did not result in a notable change in mean per capita household income for either white males or white females. For black males, total composition change led to a 3.4% increase in mean per capita household income due mainly to the influence of number of children change. The negative contribution of headship type change for black females was counteracted by a small positive contribution from number of children change so that total composition change did not have a notable impact on mean per capita household income.

The income change ratios by sex within race largely mirror the income change ratios by race. However, there does appear to be a slightly more negative impact of headship type change for females than for males and a slightly more positive impact of number of children change for males than females so that total composition change had a slightly more positive impact for white males than white females and a clearly more positive impact for black males than black females.

The magnitude of the difference in income change ratios between males and females is measured by the inequality change ratio. Headship type change and number of children change did not have notably large impacts on inequality between males and females among either blacks or whites. Total composition change did not result in a change in sex inequality in mean per capita household income among whites. However, the combined impact of the small positive contributions of headship type change and number of children change resulted in total composition change making a notable positive impact on sex inequality in mean per capita household income among blacks. Thus, the two composition trends considered in this paper worked together to increase inequality in mean per capita household income

between black males and black females in the 1960 to 1970 period.

In regard to change in inequality between blacks and whites within sex, the small negative impact of headship type change on inequality between black and whites was counteracted by the small positive impact of number of children change on inequality between blacks and whites. Thus, inequality between blacks and whites within sex did not change as a result of total composition change.

Table 10 shows the income change and inequality change ratios for 1970 to 1980 change. Looking at the income change ratios first, the impact of headship type change on mean per capita household income was more negative for white females than white males but not notably large for either group. The impact of headship type change was larger for black females than for black males and notably large for black females. Number of children change had a much more positive impact on change in mean per capita household income in the 1970 to 1980 period than in the 1960 to 1970 period, was larger for blacks than whites, and was notably large for all four race/sex groups. For each of the four race/sex groups, headship type change was overwhelmed by number of children change so that there was a notable increase in mean per capita household income as a result of total composition change.

Turning to the inequality change ratios for the 1970 to 1980 period, neither headship type change or number of children change made a notable impact on inequality in mean per capita household income between males and females among whites. The result was that total composition change did not make a notable impact on inequality. Headship type change did act to increase inequality between males and females among blacks while number

of children change did not make a notable impact on inequality. As a result of the influence of headship type change, total composition change acted to increase inequality between males and females among blacks.

Among males, number of children change acted to notably decrease inequality between blacks and whites but this impact was counteracted by the increase in inequality due to headship type change so that total composition change did not result in notable change in inequality. Among females, headship type change acted to notably increase inequality between blacks and whites but this impact was counteracted by the decrease in inequality due to number of children change so that total composition change did not make a notable impact on inequality.

In Table 11, the analysis of change in inequality by sex and race is broken down by age group. In this table and in the following table, attention is focused on the 0-19 and 20-39 age groups. Looking at the 0-19 age group first, none of the composition change components had a notably large impact on mean per capita household income for either white males or white females. For blacks, on the other hand, headship type change resulted in a notable decrease in mean per capita household income while number of children change resulted in a notable increase. For both black males and black females, these two trends counteracted each other so that there was no notable impact of total composition change for either group.

The larger negative impact of headship type change for blacks than whites and the larger positive impact of number of children change had notable impacts on inequality. Headship type change acted to notably increase inequality between white males and black males and between white females and black females while number of children change acted to notably

decrease inequality. The two composition changes counteracted each other so that there was no notable impact of total composition change on inequality.

In the 20-39 age group, white males, white females, and black males experienced notable increases in mean per capita household income as a result of number of children change. Black females did not experience a notable increase due to number of children change but did experience a notable decrease in mean per capita household income due to headship type change. The other three race/sex groups did not experience a notable change in mean per capita household income as a result of headship type change.

Neither headship type change or number of children change had a notably large impact on inequality between white males and white females acting singularly, but together the result was that total composition change acted to notably increase inequality between white males and white females. Both headship type change and number of children change acted to notably increase inequality between black males and black females and thus total composition change acted to notably increase inequality as well. Neither headship type change or number of children change had a notably large impact on inequality between white females and black females acting singularly, but, as was the case for inequality between white males and white females, total composition change acted to notably increase between white females and black females.

Table 12 shows income change and inequality change ratios for the 1970 to 1980 period. In the 0-19 age group, all four race/sex groups experienced notably large increases in mean per capita household income due to number of children change. Blacks experienced notable decreases in mean per capita household income due to headship type change while whites

did not. The impact of household composition change was so strong that all four race/sex groups experienced increases in mean income due to total composition change.

Differences between blacks and whites in the 0-19 age group in the impact of headship type change and number of children change on mean per capita household income led to change in inequality. The larger shift into female-headed households for blacks than whites contributed to a notable increase in inequality while more influential shifts into households with fewer children led to a decrease in inequality. The impact of number of children change counteracted the impact of headship type change so that there was no change in inequality between black females and white females and a decrease between black males and white males as a result of total composition change.

Among those in the 20-39 age group, number of children change acted to increase mean per capita household income for all four race/sex groups. Headship type change acted to notably decrease mean per capita household income for black females. Differentials in the impact of headship type change led to overall increases in inequality between black males and black females and between white females and black females. The underlying influence of headship type change resulted in notable increases in inequality due to total composition change between black males and black females, white males and black males, and between white females and black females.

CONCLUSION

The living arrangements of the population changed between 1960 and 1980. Two dimensions of that change were considered in this paper. One was the shift out of couple households

and the other was the shift into households with fewer children. Blacks and whites both experienced these shifts as did both males and females. The shifts were larger for blacks than for whites.

These shifts had notable impacts on inequality in mean per capita household income. The larger shift into female-headed households for blacks acted to increase inequality between blacks and whites while the relatively larger shift into households with fewer children for blacks acted to decrease inequality between blacks and whites, particularly in the 1970 to 1980 period. Since these two shifts were counteracting, economic welfare inequality between blacks and whites did not change as a result of total composition change.

These shifts did not result in change in economic welfare inequality between white males and white females. The shifts did contribute to increases in economic welfare inequality between black males and black females in both periods of change considered here. Headship type change and number of children change both contributed to increased inequality in the 1960 to 1970 period while headship type change was the main contributor to change in the 1970 to 1980 period.

The pattern of economic welfare inequality change in the 20-39 age group was different than the overall pattern. In both periods, inequality between males and females within both racial groups increased due to the underlying influence of headship type change, particularly among blacks. Inequality between white males and black males and between white females and black females increased in the 1970 to 1980 period due to the influence of headship type change. Inequality between whites females and black females increased in the 1960 to 1970 period due to the influence of both composition changes. Thus, among adults in the

childrearing ages, composition change acted to increase economic welfare. Black females were worse off in both periods whether compared to black males or white females.

The impact of the the shift of the population into female-headed households was as one would expect. Black children became worse off relative to white children, adult females in the childrearing years became worse off relative to similar males, and black women became worse off relative to white women. This occurred because one group experienced a larger shift out of households headed by a couple than another group.

The new finding from this research is that the shift into households with fewer children counteracted the impact of headship type change on inequality in economic welfare between blacks and whites, particularly among children. Blacks would have been much worse off relative to whites if it were not for the decrease in the birth rate. This is a finding that can only be seen when working with populations as the unit of analysis. Fertility decline is an event that populations experience and not individuals.

REFERENCES

Aries, P. 1980. Two Successive Motivations for the Declining Birth Rate in the West. Population and Development Review 6:645-650.

Bianchi, S. 1980. Racial Differences in Per Capita Income, 1960-1976: The Importance of Household Size, Headship, and Labor Force Participation. Demography 17:129-144.

Bianchi, S. 1981. Household Composition and Racial Inequality. New Brunswick, NJ: Rutgers University Press.

Bumpass, L. 1984. Children and Marital Disruption: A Replication and Update. Demography 21:71-82.

Cherlin, A. 1981. Marriage, Divorce, and Remarriage. Cambridge, MA: Harvard University Press.

Easterlin, R. 1980. Birth and Fortune: The Impact of Numbers on Personal Welfare. New York: Basic Books.

Espenshade, T. 1985. Marriage Trends in America: Estimates, Implications, and Underlying Causes. Population and Development Review 11:193-245.

Farley, R. 1984. Blacks and Whites: Narrowing the Gap? Cambridge, MA: Harvard University Press.

Garfinkel, I. and S. McLanahan 1986. Single Mothers and Their Children: A New American Dilemma. Washington, D.C.: The Urban Institute.

Hogan, D. and E. Kitagawa 1985. The Impact of Social Status, Family Structure, and Neighborhood on the Fertility of Black Adolescents. American Journal of Sociology 90: 825-855.

Kitagawa, E. 1955. Components of a Difference Between Two Rates. Journal of the American Statistical Association 1:68-74.

McLanahan, S. 1985. Family Structure and the Reproduction of Poverty. American Journal of Sociology 90: 873-901.

McLanahan, S. 1988. Family Structure and Dependency: Early Transitions to Female Household Headship. Demography 25:1-16.

Michael, R. and N. Tuma 1985. Entry into Marriage and Parenthood by Young Men and Women: The Influence of Family Background. Demography 22:515-544.

Sweet, J. 1984. Components of Change in the Number of Households: 1970 to 1980. Demography 21:129-140.

TABLE 1 DISTRIBUTION BY HEADSHIP TYPE
FOR WHITES AND BLACKS: 1960, 1970 AND 1980

race	headship type	1960	1970	1980
white	couple	87.0%	84.1%	80.4%
	female	9.2%	11.4%	13.8%
	male	3.8%	4.5%	5.8%
black	couple	73.5%	64.5%	56.6%
	female	21.8%	28.4%	35.7%
	male	4.7%	7.1%	7.7%

TABLE 2 DISTRIBUTION BY HEADSHIP TYPE BY SEX FOR WHITES AND BLACKS: 1960, 1970 AND 1980

		males			females		
race	headship type	1960	1970	1980	1960	1970	1980
white	couple	90.0%	87.8%	84.3%	84.3%	80.6%	76.8%
	female	3.8%	4.6%	5.0%	14.2%	17.7%	22.0%
	male	6.2%	7.6%	10.7%	1.5%	1.7%	1.2%
black	couple	77.7%	68.8%	62.3%	69.7%	60.8%	51.8%
	female	14.5%	19.7%	23.6%	28.2%	36.1%	45.9%
	male	7.8%	11.5%	14.1%	2.1%	3.1%	2.3%

TABLE 3 DISTRIBUTION BY HEADSHIP TYPE BY SEX AND AGE GROUP FOR WHITES AND BLACKS: 1960, 1970 AND 1980

		males											
		0-19			20-39			40-59			60+		
race	headship type	1960	1970	1980	1960	1970	1980	1960	1970	1980	1960	1970	1980
white	couple	93.0%	89.6%	86.9%	90.0%	87.7%	80.0%	89.7%	89.2%	87.8%	80.7%	80.2%	82.4%
	female	5.7%	8.2%	10.4%	3.9%	3.4%	3.8%	1.9%	1.6%	1.4%	1.7%	1.7%	1.3%
	male	1.3%	2.2%	2.7%	6.1%	8.9%	16.2%	8.4%	9.2%	10.8%	17.6%	18.1%	16.3%
black	couple	75.5%	63.6%	55.2%	80.2%	74.8%	65.6%	81.4%	77.5%	73.1%	75.7%	66.9%	66.6%
	female	22.2%	32.3%	40.9%	10.7%	9.5%	14.4%	4.2%	4.3%	4.6%	2.7%	4.3%	4.3%
	male	2.3%	4.1%	3.9%	9.1%	15.7%	20.0%	14.4%	18.2%	22.3%	21.6%	28.8%	29.1%

		females											
		0-19			20-39			40-59			60+		
race	headship type	1960	1970	1980	1960	1970	1980	1960	1970	1980	1960	1970	1980
white	couple	92.8%	89.4%	86.9%	90.4%	86.7%	81.0%	81.1%	81.1%	79.6%	56.0%	51.9%	51.9%
	female	6.0%	8.7%	11.4%	8.5%	12.2%	18.2%	17.6%	17.6%	19.7%	40.6%	45.3%	46.8%
	male	1.2%	1.9%	1.7%	1.1%	1.1%	0.8%	1.3%	1.3%	0.7%	3.4%	2.8%	1.3%
black	couple	74.9%	63.8%	54.7%	70.9%	64.1%	53.2%	66.6%	60.5%	54.3%	46.5%	40.5%	35.0%
	female	22.7%	31.9%	42.4%	27.3%	33.6%	44.6%	31.8%	37.6%	44.1%	50.9%	57.1%	63.3%
	male	2.4%	4.3%	2.9%	1.8%	2.3%	2.2%	1.6%	1.9%	1.6%	2.6%	2.4%	1.7%

TABLE 4 DISTRIBUTION BY NUMBER OF CHILDREN
FOR WHITES AND BLACKS: 1960, 1970 AND 1980

race	# of children	1960	1970	1980
white	0	29.7%	33.5%	42.4%
	1	17.0%	16.2%	18.6%
	2	21.4%	19.6%	22.0%
	3+	31.9%	30.7%	17.0%
black	0	21.7%	23.1%	27.1%
	1	13.2%	13.6%	19.4%
	2	13.1%	15.2%	21.1%
	3+	52.0%	48.1%	32.4%

TABLE 5 DISTRIBUTION BY NUMBER OF CHILDREN BY SEX FOR WHITES AND BLACKS: 1960, 1970 AND 1980

		males			females		
race	# of children	1960	1970	1980	1960	1970	1980
white	0	28.3%	31.9%	41.0%	31.1%	35.1%	43.6%
	1	17.1%	16.3%	18.7%	16.9%	16.1%	18.5%
	2	21.8%	20.3%	22.5%	21.1%	19.0%	21.5%
	3+	32.8%	31.5%	17.8%	30.9%	29.8%	16.4%
black	0	21.5%	23.2%	28.2%	21.9%	23.2%	26.1%
	1	12.9%	13.1%	18.7%	13.5%	14.1%	20.0%
	2	12.9%	15.3%	20.7%	13.3%	15.2%	21.3%
	3+	52.7%	48.4%	32.4%	51.3%	47.5%	32.6%

TABLE 6 DISTRIBUTION BY NUMBER OF CHILDREN BY SEX AND AGE GROUP FOR WHITES AND BLACKS: 1960, 1970 AND 1980

males

race	# of children	0-19			20-39			40-59			60+		
		1960	1970	1980	1960	1970	1980	1960	1970	1980	1960	1970	1980
white	0	1.6%	2.5%	4.3%	25.9%	31.8%	44.1%	44.3%	45.7%	53.6%	86.8%	91.7%	94.4%
	1	15.4%	15.7%	22.0%	20.6%	20.2%	20.9%	21.2%	20.1%	21.1%	7.1%	4.8%	3.7%
	2	28.0%	27.4%	37.4%	25.3%	23.0%	22.7%	17.3%	16.4%	15.2%	3.7%	1.9%	1.3%
	3+	55.0%	54.4%	36.3%	28.2%	25.0%	12.3%	17.2%	17.8%	10.1%	2.4%	1.6%	0.6%
black	0	0.9%	1.6%	2.5%	27.1%	31.5%	38.0%	47.8%	44.5%	49.7%	69.2%	78.2%	80.4%
	1	9.8%	10.7%	17.6%	17.4%	17.4%	22.6%	16.3%	16.6%	19.7%	11.4%	10.0%	9.8%
	2	13.7%	16.9%	27.2%	15.9%	18.0%	19.7%	9.9%	12.2%	14.5%	6.9%	5.7%	5.1%
	3+	75.6%	69.8%	52.7%	39.6%	33.1%	19 7%	26.0%	26.7%	16.1%	12.5%	6.1%	4.7%

females

race	# of children	0-19			20-39			40-59			60+		
		1960	1970	1980	1960	1970	1980	1960	1970	1980	1960	1970	1980
white	0	2.2%	3.1%	4.8%	19.5%	23.8%	34.1%	54.6%	54.7%	62.0%	88.2%	93.1%	95.7%
	1	16.0%	16.3%	22.6%	20.6%	20.3%	2.9%	21.1%	20.6%	20.6%	5.8%	3.3%	2.5%
	2	28.3%	26.5%	37.2%	27.2%	25.2%	26.9%	13.7%	13.1%	11.2%	3.4%	2.0%	1.1%
	3+	53.5%	54.1%	35.4%	32.7%	30.7%	16.1%	10.6%	11.6%	6.2%	2.6%	1.6%	0.7%
black	0	1.0%	1.8%	2.2%	19.7%	18.9%	21.8%	50.1%	47.3%	47.4%	72.1%	79.5%	81.9%
	1	10.0%	11.1%	17.7%	17.8%	19.2%	24.9%	17.3%	16.9%	22.8%	10.5%	9.5%	10.1%
	2	13.9%	16.3%	27.1%	16.6%	19.1%	24.8%	10.6%	13.4%	14.4%	6.5%	4.8%	4.4%
	3+	75.0%	70.8%	53.0%	45.9%	42.8%	28.5%	22.0%	22.4%	15.4%	10.9%	6.2%	3.6%

TABLE 7 INCOME CHANGE RATIOS AND INEQUALITY CHANGE RATIO FOR WHITES AND BLACKS: 1960 TO 1970

compositional change	income change ratio for whites	income change ratio for blacks	income change ratio for whites/ blacks
headship	.995	.976	1.020
# of children	1.017	1.026	.991
interaction	1.003	1.014	.989
total	1.014	1.015	1.000

"*" indicates an increase or decrease of at least 3%

TABLE 8 INCOME CHANGE RATIOS AND INEQUALITY CHANGE RATIO FOR WHITES AND BLACKS: 1970 to 1980

compositional change	income change ratio for whites	income change ratio for blacks	inequality change ratio for whites/ blacks
headship	.994	.963*	1.032*
# of children	1.075*	1.108*	.971
interaction	1.005	1.002	1.003
total	1.075*	1.073*	1.002

"*" indicates an increase or decrease of at least 3%

TABLE 9 INCOME CHANGE RATIOS AND INEQUALITY CHANGE RATIOS FOR WHITE MALES, WHITE FEMALES, BLACK MALES, AND BLACK FEMALES: 1960 TO 1970

compositional change	income change ratio for white males	income change ratio for white females	income change ratio for black males	income change ratio for black females	inequality change ratio for white males/ white females	inequality change ratio for black males/ black females	inequality change ratio for white males/ black males	inequality change ratio for white females/ black females
headship	.998	.991	.982	.969*	1.007	1.014	1.017	1.023
# of children	1.020	1.014	1.034*	1.017	1.006	1.016	.987	.997
interaction	1.004	1.001	1.019	1.008	1.003	1.011	.986	.993
total	1.023	1.006	1.034*	.994	1.017	1.041*	.989	1.012

"*" indicates an increase or decrease of at least 3%

TABLE 10 INCOME CHANGE RATIOS AND INEQUALITY CHANGE RATIOS FOR WHITE MALES, WHITE FEMALES, BLACK MALES, AND BLACK FEMALES: 1970 to 1980

compositional change	income change ratio for white males	income change ratio for white females	income change ratio for black males	income change ratio for black females	inequality change ratio for white males/ white females	inequality change ratio for black males/ black females	inequality change ratio for white males/ black males	inequality change ratio for white females/ black females
headship	.999	.989	.979	.945*	1.010	1.035*	1.021	1.046*
# of children	1.076*	1.074*	1.110*	1.105*	1.002	1.005	.969*	.972
interaction	1.008	1.003	1.002	1.003	1.005	1.000	1.005	1.001
total	1.083*	1.066*	1.092*	1.053*	1.016	1.037*	.992	1.013

"*" indicates an increase or decrease of at least 3%

TABLE 11 INCOME CHANGE RATIOS AND INEQUALITY CHANGE RATIOS FOR WHITE MALES, WHITE FEMALES, BLACK MALES, AND BLACK FEMALES BY AGE GROUP: 1960 TO 1970

age group	compositional change	income change ratio for white males	income change ratio for white females	income change ratio for black males	income change ratio for black females	inequality change ratio for white males/ white females	inequality change ratio for black males/ black females	inequality change ratio for white males/ black males	inequality change ratio for white females/ black females
0-19	headship	.989	.986	.908*	.937*	1.002	.969*	1.089*	1.053*
	# of children	1.008	1.001	1.060*	1.058*	1.007	1.002	.951*	.946*
	interaction	1.000	1.001	1.040*	1.017	.999	1.022	.962*	.984
	total	.996	.988	1.008	1.012	1.008	.996	.989	.977
20-39	headship	1.001	.986	1.007	.969*	1.015	1.039*	.994	1.018
	# of children	1.050*	1.042*	1.062*	1.013	1.007	1.048*	.989	1.029
	interaction	1.014	1.002	1.017	1.008	1.012	1.009	.997	.994
	total	1.064*	1.031*	1.085*	.990	1.033*	1.097*	.981	1.041*
40-59	headship	1.001	1.000	.986	.979	1.001	1.007	1.015	1.021
	# of children	1.004	.998	.980	.981	1.006	.999	1.025	1.017
	interaction	1.001	.999	1.015	1.007	1.002	1.008	.987	.992
	total	1.007	.997	.981	.967*	1.010	1.014	1.027	1.031*
60+	headship	1.001	.990	1.006	.988	1.011	1.018	.995	1.002
	# of children	1.018	1.017	1.047*	1.039*	1.001	1.008	.972	.979
	interaction	1.000	1.001	1.005	.999	.999	1.006	.995	1.003
	total	1.019	1.008	1.058*	1.026	1.011	1.031*	.963*	.983

"*" indicates an increase or decrease of at least 3%

TABLE 12 INCOME CHANGE RATIOS AND INEQUALITY CHANGE RATIOS
FOR WHITE MALES, WHITE FEMALES, BLACK MALES, AND BLACK FEMALES BY AGE GROUP: 1970 to 1980

age group	compositional change	income change ratio for white males	income change ratio for white females	income change ratio for black males	income change ratio for black females	inequality change ratio for white males/ white females	inequality change ratio for black males/ black females	inequality change ratio for white males/ black males	inequality change ratio for white females/ black females
0-19	headship	.990	.988	.931*	.896*	1.003	1.039*	1.063*	1.102*
	# of children	1.108*	1.108*	1.217*	1.216*	1.000	1.000	.911*	.911*
	interaction	.997	.998	.992	1.000	.999	.992	1.005	.998
	total	1.095*	1.094*	1.140*	1.112*	1.002	1.025	.961*	.983
20-39	headship	1.003	.979	.977	.945*	1.024	1.034*	1.026	1.035*
	# of children	1.112*	1.124*	1.118*	1.124*	.989	.995	.994	1.000
	interaction	1.025	1.009	1.009	1.000	1.016	1.009	1.016	1.009
	total	1.140*	1.112*	1.104*	1.070*	1.025	1.032*	1.032*	1.039*
40-59	headship	1.000	.994	1.000	.967*	1.006	1.034*	1.000	1.028
	# of children	1.064*	1.049*	1.082*	1.048*	1.015	1.033*	.983	1.001
	interaction	1.005	1.003	1.002	1.003	1.002	1.000	1.003	1.001
	total	1.070*	1.046*	1.085*	1.018	1.023	1.066*	.986	1.028
60+	headship	1.003	.996	1.000	.972	1.007	1.029	1.003	1.025
	# of children	1.011	1.009	1.014	1.018	1.001	.996	.996	.991
	interaction	.998	1.001	1.000	1.011	.998	.989	.998	.990
	total	1.012	1.006	1.014	1.001	1.005	1.013	.997	1.005

"*" indicates an increase or decrease of at least 3%

Mailing Address:

Center for Demography and Ecology
4412 Social Science Building
1180 Observatory Drive
University of Wisconsin
Madison, WI 53706